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Hands-On Learning in the Classroom

Articulate Your Approach

You are a product expert.

I've worked with you. I've been on conference calls with you. I've heard those who respect your expertise in your product and say that you should be the one to train the beginner, because you know the product as well as anyone. I've seen you reluctantly agree to teach them again. Maybe they'll get it this time.

Okay, so I haven't worked with you, but I've worked with many like you, and here's what else I know about you. I know that you are very smart. People say that you "just get it" when it comes to your product, technology, or industry. You can probably install or use your product with your eyes closed. When people need help understanding the limitations of your product or stretching the possibilities of what it can do, you are one of the few that gets the call. What others think is difficult, you find to be simple. You like to fix it, install it, program it, commission it—whatever you do with your product—you like to do it yourself.

Now you've been told you need to "transfer your knowledge" to others.

But you're frustrated that no matter how much you go over it with people, they still think it's difficult to understand. It seems so obvious to you. You're afraid some might think you don't want others to become as smart as you are—that you're one of "those" knowledge-hoarding engineers—but that's not true. You genuinely want to make it easy for them as well.

"But," you say, "I can't."

Take heart. Here's the good news and the bad news all at once: you're right. You can't.

But what you can do is help them learn it for themselves. And that is a skill that starts right here.

Product Training as You Know It

I've been involved with product training for nearly 20 years, so I'm pretty confident that if you have taken many technical training courses delivered by subject matter experts, you are familiar with the training process described in the following text. Like the fictitious John in this scenario, you, too, may have struggled with the following progression.

Product Training for the Technical Expert: The Art of Developing and Delivering Hands-On Learning,
First Edition. Daniel W. Bixby.

Companion website: www.wiley.com/go/Bixby

John will deliver the content John believes this is the most critical step. If he can only accomplish one thing, he must make sure his students get "the training," by which he refers to the information in his presentation. He hates to be rushed. He would love to explain it better, but he has only a limited time to deliver this content.
John will more thoroughly explain the content This is what John calls a *real* training class, as opposed to a presentation (though, admittedly, he uses the same material for both). He has put as much information on the slides as he can, just in case he doesn't have enough time. That way his students can read them later. With a little more time, John can add stories and anecdotes about how he has used the product successfully, as well as a question and answer time at the end.
John will demonstrate the product John loves this part, because he loves working with his product. He gets to show them how easy it is to use once you become proficient using it. He likes watching students' eyes light up in apparent understanding as he pushes buttons and adjusts settings at the front of the room. Since John wants to confirm their learning, he asks the class to gather around him, so they can observe what he is doing more closely.
John will let the students experience the product John's classes don't often get this far, though he wishes they would. He believes in hands-on training—that the students should test their newfound knowledge on the equipment they've been studying. They should be able to change those settings and troubleshoot those problems, but the lab time will help to reinforce it. Not all of the students will get through the exercises, but if they struggle, John will be there to show them how to do it.

Have you been there? My guess is you have. Of course, you will need to adjust some things to your setting, or to an online or webinar environment, but the general progression is there. Technical experts, like John, have become so accustomed to the "Tell, Explain, Show, Try" model that they actually expect this progression when they go to a product training class (Figure 1.1). This undefined and ineffective template has become the accepted standard for product training. This model needs to change. It is hurting your learners. You didn't become an expert by merely receiving information. Your students won't either. You became an expert by doing it.

What Makes Training Effective?

Your training must be effective. In the words of a colleague and expert in training design and facilitation, Terri Cheney, "Ineffective training is expensive."[1] If you provide training that doesn't work, you are wasting your time and your students' time, and you are wasting their money and your company's money. No one wins unless the training works.

Figure 1.1 Ineffective product training process.

Most product training begins with a problem. The problem may be real, and it may be that training is part of the solution. I'm going to start with the assumption that other potential factors have been eliminated—the quality of the product, the environment, and so on are not issues, and the right product is being used for the right solution. The real need truly has been narrowed down to the way users understand the product functionality. Even then, simply providing a training class is never *the* solution. That may surprise you, coming from a training professional in a book about training.

The reality is that you already know that. You're a subject matter expert. It is precisely because you are a subject matter expert that you have been asked to provide the training or help develop the curriculum. You know that asking a subject matter beginner to give the training could be catastrophic. You agree with the statement that bad training on your product is worse than no training. "So," you're thinking "it's *good* training. When people need to understand something new, *good* training is the solution."

You're getting closer. The problem is that most subject matter experts and even most corporate executives are unable to define what good training is. Their emphases are placed on any number of good and very important things that actually detract from the goal. Following are a few that are prevalent in product training:

Content. By far the front-runner on this list is content. Bad content equals bad training. Therefore, we reason, good content must mean good training.

Unfortunately, this deduction is not true. Content is extremely important. It is true that bad content would turn into bad training and that having good content is essential. However, just because something is important—or even essential—doesn't make it *the* solution. Good content, by itself, is not the solution to your training needs. Understanding this principle is so important that it is the focal point of Chapter 8.

Presentation skills. No one wants to sit in a class or on a webinar with an instructor who can't communicate well. If instructors can take good content and add in good presentation skills, maybe *that* is the solution for good training.

Here again, good presentation skills are necessary. I love teaching subject matter experts how to present, but it is not *the* solution to your training needs.

Availability. Here, the emphasis is quantity over quality. The more knowledge one distributes to those using their products, the fewer issues they will have. Product experts need to spread their knowledge. If those experts can just take advantage of available technologies and get more people through the training course, that will solve any education problems.

Believe it or not, this is a common approach. The desire to make your training available to the most people possible is a great desire. Sometimes executives mandate a certain availability; other times it is the subject matter experts that believe availability is the answer. However, if you have determined to deliver your course via eLearning or webinar before you even develop the objectives for the course, you may be guilty of focusing on the wrong thing first.

The list could go on to include other great things, like adult education and profitability. Both of those, to some degree or another, are key pillars in a philosophy of proficiency, but none of them stand alone.

So, what is the solution to the problem? The solution is to effectively change a person's skills or behavior—to change how they *do* something. Everything else just helps you reach that goal. You need good content, great presentation skills, and a good

mechanism to deliver training that will change behavior. You certainly want to improve the skillsets of as many people as possible. Making the outcome something that can be observed and measured, however, will help you choose the right content and deliver it the right way.

Your Goal: Proficiency

To be proficient in a skill or task, according to Merriam-Webster's simple definition, is to be good at doing something.[2] Fuller definitions might include words like expert, well advanced, or competent. The desire of all product trainers should be to help others become experts with their product—to be able to use their products with competence.

It is important to point out the verb "to do" in the definition of proficient. To be proficient in something requires more than just knowledge. It requires being able **to do something** with that knowledge. Knowing a lot about your product is useless. Doing something with your product can launch immense success.

Product proficiency training involves more than just teaching people about your product. It is about making the training effective. The training is only effective when it changes the way the learner uses your product. This is not an issue of using the right terminology. This is a vital foundation of effective training.

If you merely teach students *about* your product, you may well gain some admirers, but you will not produce specialists or skilled users. Only changing how people use or what they do with your product will produce skilled users. Skilled users are the lifeblood of a product. The more there are, the more successful the product will be. Knowledge may affect behavior, but when push comes to shove, behavior is always more important than knowledge.

If you are lying on the operating table, what is more important to you: a doctor who knows a lot about the anatomy or one who can effectively perform the surgery you need? What about the pilot flying your airplane? Which do you want—knowledge or proficiency? The same can be said of you and your products. What makes your product valuable is what it does. What makes you valuable is not how much you know about your product, but what you are able to do with your product. What will make you effective as an instructor is how successful you are at changing what others do with your product.

Articulating Your Training Approach

In many ways, defining your approach to training is like articulating a good vision or purpose statement. It takes time and effort to create one that is broad enough to cover any learning application, but specific enough to define the approach you should take and demand consistency. Your primary goal is to clearly state how you will teach your students. You need a blueprint that will guide you no matter the product on which you are training on and no matter who you are training.

But first, you must understand how your students learn. Think about your product. Imagine the difficulties you would have if it had been designed without any understanding of how it would be used after production. It is more likely that product

managers and engineers have taken great lengths to understand the market, the environment, the user preferences, and other factors that affect how your customers will use your product. The foundation of your approach starts with an understanding of what you want to accomplish—in this case, teaching proficiency. It is possible for training programs without a documented focus on proficiency to be successful. They may teach proficiency without really trying. Chances are, though, that that sort of training will be hit or miss.

There are several practical benefits to having a defined philosophy. First, by defining what you expect the outcome to be, you will ensure consistent training. Second, by emphasizing proficiency over knowledge, you will increase retention. Proficiency endures longer than information, which can be easily forgotten. Third, and most importantly, you will guarantee that your training is effective.

Three Things to Document

You want your training to be effective. Every time. When you document three important areas of instructor-led training, it can be. The beauty of documenting how your students will achieve proficiency is that the process of documenting will provide answers to most of your questions before they are even asked.

Creating an effective product training class is like building a house. First, a house needs a well-designed strategy that includes blueprints and financial backing. Second, a house needs a strong and supportive structure that aligns with your plans. Third, the house must be livable and presentable or it won't get used. Consider how that applies to training:

1) Strategy. Training blueprints include the financial information that will make them successful as well as the expectation of what the finished product should provide.
2) Structure. Effective training doesn't just happen. Effective training is carefully built with a thoughtful and proven process.
3) Delivery. If training isn't presented in a way that encourages learning and is enjoyable for the learner, it won't get used. And it must get used since a great product that doesn't get used has no value.

Try a little exercise with me. You will be tempted to skip over it, but take the time to do the exercise, since it will help to shape your definition of effective training. Think about a class or learning module you have taken in the recent past—preferably one where you learned a lot and enjoyed the class. Write down answers to the following questions as you consider that learning experience.

Exercise 1.1 Class you have taken

Class you have taken
Why did the company or organization offer this class?

What can you do differently after this class?
How did you learn in this class?

I asked you to answer those questions before reading any further so that you can see later how a different approach may change some of the answers. Before taking a deeper look at the strategy, structure, and delivery of product training, take a moment to consider a class that you might teach or have recently taught on one of your products or a technology of your choice. Answer similar questions about the class, course, or module you are planning to teach.

Exercise 1.2 Class you will deliver

Class you will deliver
Why should your company or organization offer this class?
What should students who take this class be able to do differently after the class?
How will they learn in this class?

Refer back to these answers as you read through this book. Add or adjust your answers as necessary, but make sure you can answer them with confidence.

Adult Learning Principles: The Foundation of Hands-On Learning

Why, what, how? All three questions are really about how adults learn. Perhaps you thought the last question was a typo that I meant to ask *what* students would learn *about*. Maybe you thought it was a question about the delivery medium; will it be an eLearning class or will it be an instructor-led class? Both the topic and the delivery

method are important. But the third question really is about *how*—how the information will be transformed into understanding—not about materials or delivery styles. Understanding how adults learn is an essential part of being a good instructor.

Training is a skill. There are good trainers and there are poor trainers. Facilitating technical learning is like the skill of photolithography inspection, web development, computer skills, engineering, or any other technical skill. It requires an understanding of the topic to get started and experience to become proficient. You don't expect a new technician to have the same expertise that you do, much less someone who has no technical background at all. Then why would you expect someone who hasn't studied how to teach or how adults learn to be a good instructor?

Training, like the technical skills I mentioned earlier, also requires another ingredient to make a great teacher. Behind every successful technical expert is a little bit of artistry. Part of what will make you a technical success is your ability to hear that the machine isn't working properly, to see a default before it is released, and to feel an imperfection. That's art, not science. Those are instincts that become part of who you are as a technician. However, those fine-tuned instincts also make it harder for you to teach the skill.

Adult education is a field that some spend their lives studying. You don't need that level of understanding, but you do need to understand some of the basics. You need to be able to answer the question, "How will students learn in this class?" The philosophy of product proficiency doesn't change. That said, the strategy and the structure of training might change as new reasons and ways to design and build effective training are developed. The delivery might change as well, as new technologies are made available to us. The principles of adult learning do not. As demonstrated in Figure 1.2, they are the foundation that holds the three pillars.

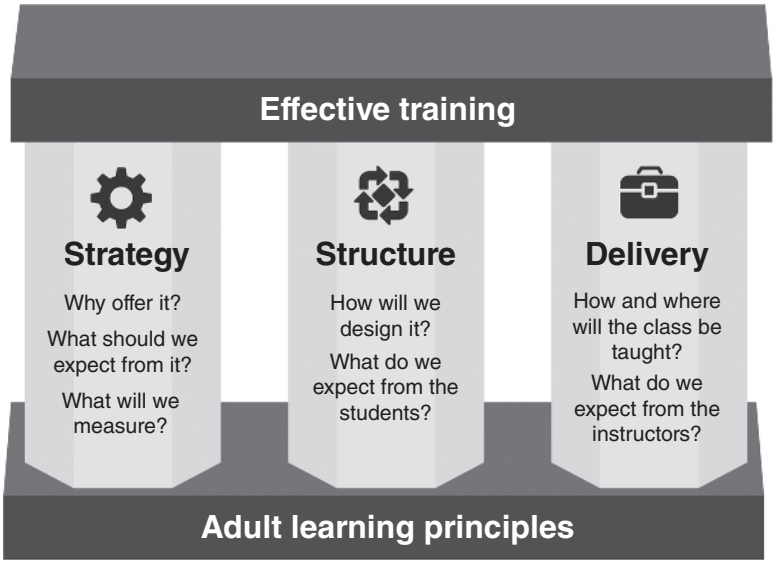

Figure 1.2 Pillars of effective learning.

The Strategy of Hands-On Learning

Why should your company or organization offer this class? The first question will drive you to define a purpose statement. Product solution training differs from general education in one key area: the impetus to have it in the first place. All product training is driven by a business strategy. Never offer a class unless you know why it provides value to your company and to your students. If you work in a for-profit business, your company's mission statement will likely be a major part of your purpose statement. Even if you work for an institution of higher learning or a nonprofit organization, it is critical to be able to understand and articulate the purpose statement.

Make certain your answer to the question earlier reflects your company's vision for your product. Perhaps you wrote down an answer like the one I often see: "So that students can learn more about our products." Or perhaps you were more specific in your answer: "So we don't get so many calls in technical support." That last one is a better answer, but it doesn't answer why it is important to reduce technical support calls. Your training should support the goal of the company. Usually, the main goal of the company is to sell more products. Sometimes, it is to save money. A better answer may be "to increase sales by $700,000" or "to decrease technical support spending by $200,000."

The Structure of Hands-On Learning

What should students who take this class be able to do differently after the class? The second question pertains to the expected outcome of your class. If you don't know what you are seeking to change, you have no framework to build on. Almost as importantly, it is impossible to be consistent if you cannot answer that question.

Product training that is consistently effective always completes the phrase, "At the end of this class, students will be able to do _____." Note that this phrase is specific, without ambiguous expressions like "know more" and "understand better." It is almost impossible to be consistent unless you are precise. When a former student cannot adjust a sensor on your product, his or her boss is not going to ask them if they learned "a little more" in your class. They are going to ask if the instructor teaches how to adjust that sensor in the class. "No" is an appropriate answer, but "sometimes" or "depending on the instructor" is not.

Often, your purpose statement will imply an answer to this question. For example, if your "why" answer was "to increase sales by $700,000," you might add "by ensuring our resellers can integrate our product." If your answer was "to decrease technical support spending by $200,000," you might add "by verifying that our installers can install it correctly."

The Delivery of Hands-On Learning

How and where will the classes be taught? How will the instructor ensure that real learning happens? Questions like these are important to develop a clean, organized teaching environment. A structurally sound and well-designed house will not be used if it is not livable and presentable. The same is true with training. A great training program, driven by a solid strategy and built on great theories, is still useless if those theories aren't

actualized in the delivery of the learning. The best way for subject matter experts to do that is to abandon the idea of presenting training and adopt, instead, the concept of facilitating learning.

Facilitating effective learning is what this book is about, but getting there requires some groundwork. You can't hang pictures in your house before the walls are built. Too many instructors have been told it is their presentation skills that need to improve, when the structure of the training course is the real problem or when the lack of a forward-thinking strategy would doom the training anyway.

But it is important to hang those pictures—to perfect those delivery skills. Training that is boring will not attract students. More importantly, however, your training must be effective. It must help your company meet its goals by changing what people *do* with your product.

Conclusion

It is challenging enough to teach one effective and well-delivered class. Teaching effectively in every class or creating a program that involves multiple instructors all seeking to teach effective classes requires enormous effort. The key to your success will be determined by how you answer those questions. Are you confident that this course will help your company achieve its goals? Can you say, with reasonable certitude, that all students who successfully complete this course will be able to perform the intended task?

You will never be able to do everything. You will have decisions to make: how many students to include, who can take the class, what technologies will you use, how will you measure results—all are discussions you must have before you offer training. If you don't, you'll end up altering what you do with every class. Inconsistent programs are difficult to improve. You will naturally reflect on your best examples (when you did teach about that sensor) and fail to improve the others.

Having the right approach to product education is just the beginning, but it is the right place to start. When you consider your product training, can you articulate what makes it effective? Can you answer the questions that define your approach to proficiency learning? Your ability to meet those two objectives is an important first step in becoming an effective instructor of your product, solution, or technology.

Making It Practical

The principles of teaching for proficiency instead of merely increasing knowledge can change the way we think about product training. How does it apply in your company or department?

1) Define how proficiency with your product is different than knowledge of your product.

2) In your own words, describe whether you would prefer the pilot of your airplane to be knowledgeable or to be proficient and why.

3) What are three areas that are important to articulate in order to provide consistently effective product training?
   a)

   b)

   c)

Before you read Chapter 2, "Experiencing Learning: Emphasize Skill over Information," answer these two questions:

1) In your own words, what do you think I mean by the phrase, "Don't teach to yourself"?

2) Write down how you think you learn best in one to three sentences.

Notes

1 Terri, Cheney. From Know to Do: A Quick Guide for Experts Training Other Adults. Unpublished.
2 Merriam-Webster online dictionary. http://www.merriam-webster.com/dictionary/proficient (accessed August 8, 2017).